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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,698

01/05/2006

Shinji Imoto

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EXAMINER

ZIMMERMANN, JOHN P

ART UNIT

PAPER NUMBER

2861

MAIL DATE

DELIVERY MODE

11/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,698	Applicant(s) IMOTO ET AL.	
	Examiner John P. Zimmermann	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 14-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-23 is/are rejected.
- 7) ☒ Claim(s) 1 & 14-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 August 2008 has been entered.

Response to Amendment

2. Applicant's amendment to **claim 1**, to include substantially more descriptive and further limiting claim language, has been recognized and examined as such.

3. Examiner notes Applicant's addition of **claim 23** and results of examination are presented below.

Claim Objections

4. **Claim 1** is objected to because of the following informalities: Newly amended, independent **claim 1** appears to contain a typographical error presently reading "...a charge eliminating unit eliminating configured to receive a second AC bias voltage" (Amended Claim 1, Line 10). Examiner understands this line to read "...a charge eliminating unit configured to receive a second AC bias voltage." Appropriate correction is required.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

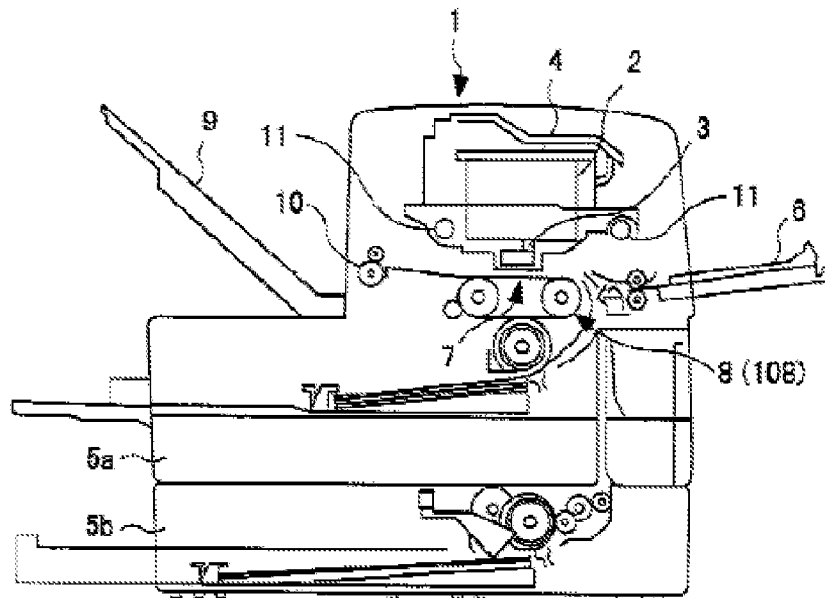
7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claims 16-19 & 22-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Maki et al.**, (US 2002/0126193 A1) and further in view of **Fukushima et al.**, (US 6,097,408 A).

- a. As related to independent **claim 16**, Maki et al. teach an image forming apparatus, comprising a head unit having a discharge nozzle for discharging an ink wherein the head

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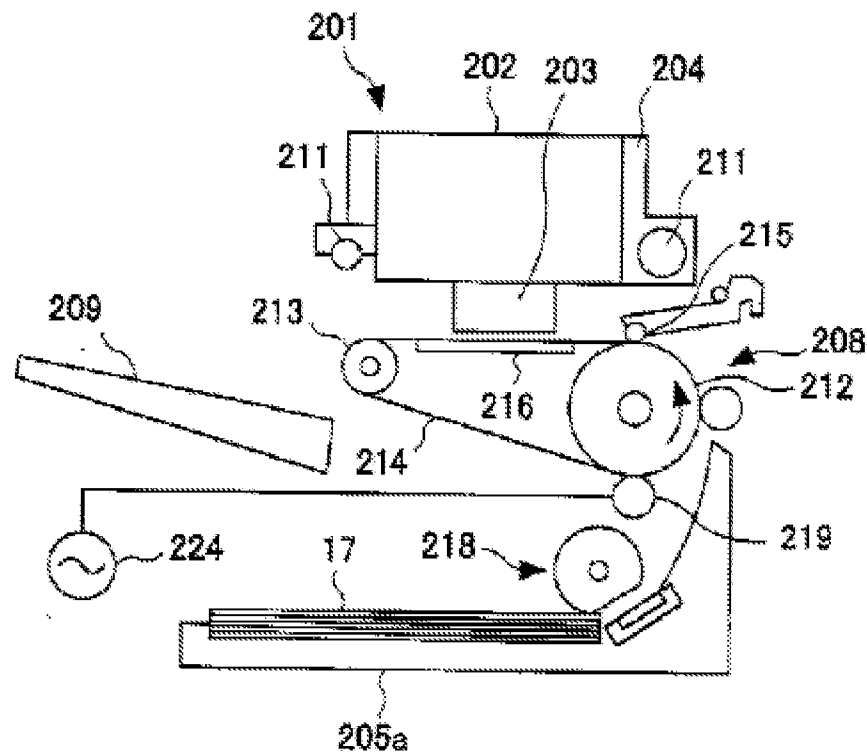
unit discharges the ink from the discharge nozzle to print an image on a recording sheet (Maki et al. – Title; Detailed Description, Page 6, Paragraph 131; and Figure 1, Reference #1 & #3, shown below) and a conveyance unit confronting the head unit and conveying the sheet in a movement direction to a position where the sheet confronts the head unit (Maki et al. – Abstract; Detailed Description, Page 7, Paragraph 131; and Figure 1, Reference #8 & #3, shown below).

FIG. 1

b. Continuing with **claim 16**, Maki et al. teach a charging unit [i.e. belt charging unit] provided in the conveyance unit to supply an AC bias voltage to the conveyance unit (Maki et al. – Detailed Description, Page 10, Paragraph 153 and Figure 18, Reference #208, #214, #215, #216, & #219, shown below) and a charge eliminating unit [i.e. grounding unit] eliminating charge of a printing surface of the recording sheet, the charge eliminating unit being disposed at a position on a downstream side of the charging

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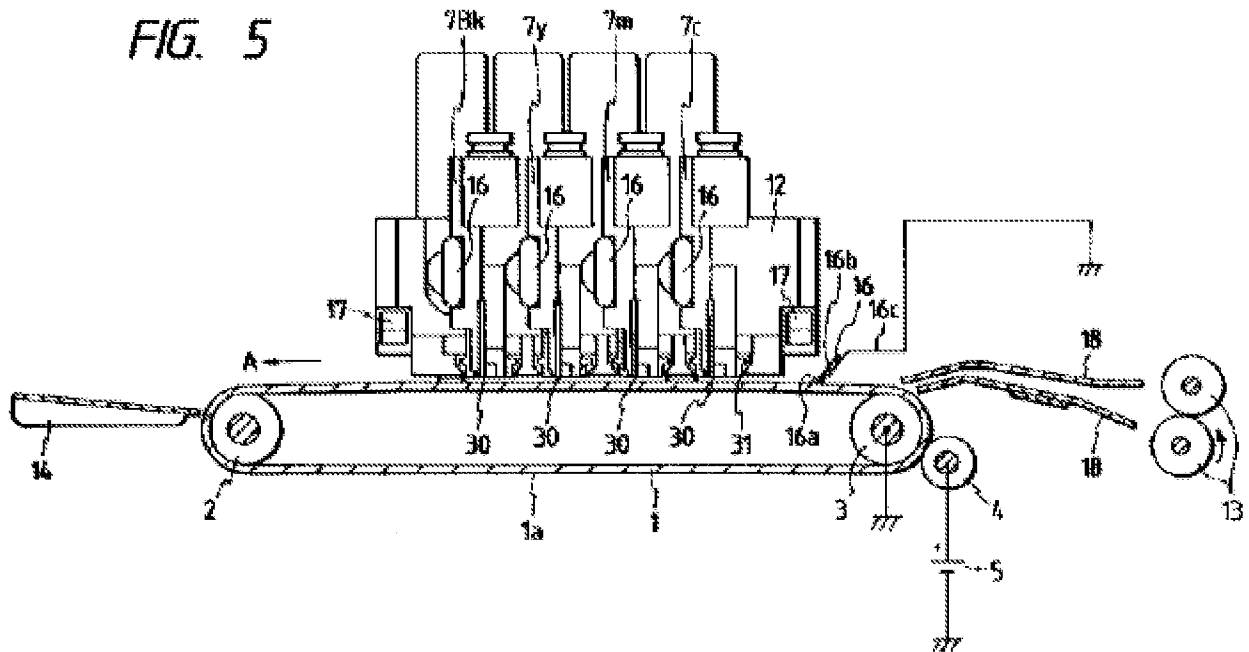
unit in the movement direction of the conveyance unit and on an upstream side of the head unit (Maki et al. – Detailed Description, Page 10, Paragraph 153 and Figure 18, Reference #212, shown below).

FIG. 18

c. Continuing with **claim 16**, Maki et al. *do not* specifically teach a voltage of polarity which is opposite to a charging polarity. *However*, Fukushima et al. teach an image forming apparatus [i.e. ink jet recording apparatus] with a voltage supplying unit [i.e. negative pole of a power source (-)] supplying to the charge eliminating unit [i.e. electrode] a voltage of polarity which is opposite to a charging [i.e. charging roller (+)] polarity of a conveyance belt of the conveyance unit at a position where the conveyance belt confronts the charge eliminating unit (Fukushima et al. - Detailed Description,

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Columns 5, Lines 53-58, Column 6, Lines 1-3, Column 7, Lines 45-50, & Column 16, Lines 10-15 and Figure 5, Reference #16, #4, #5, & (+), shown below).

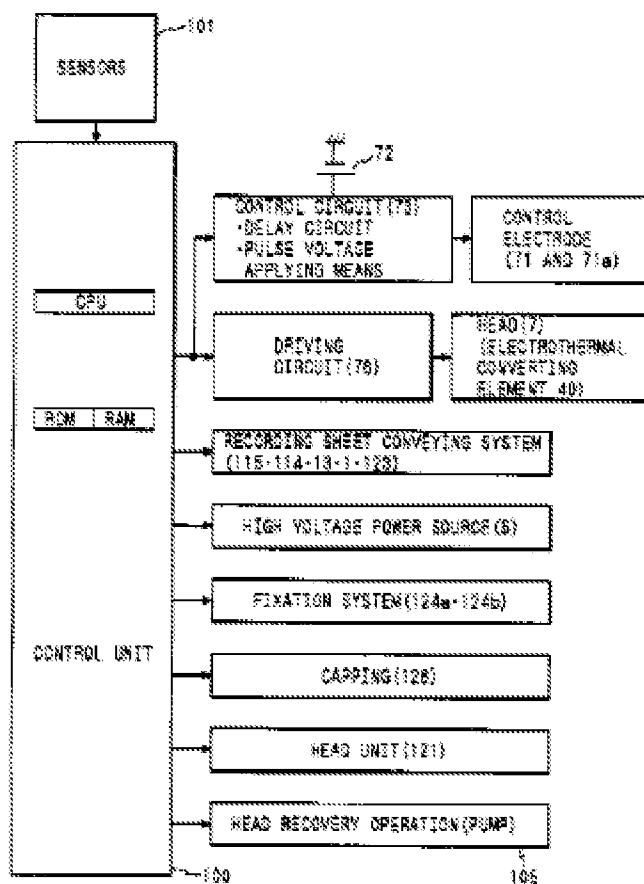


d. Continuing with **claim 16**, while the combination of Maki et al. and Fukushima et al. *does not* specifically teach the movement distance of the conveyance unit as broadly listed in the present claim, it would have been obvious to one of ordinary skill in the art at the time of the invention to obtain a minimum movement distance based on the electrical fields generated on the conveyance unit using the identical or likely an even more accurate equation and any unspecified charging period length from a positively charged portion of the conveyance unit to a negatively charged portion of the conveyance unit, if for no other reason than to enable the conveyance system to move and attract the recording medium while properly affixing said medium to its' surface before eliminating the charge used for attraction.

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e. As related to dependent **claim 17**, the combination of Maki et al. and Fukushima et al. teach the limitations of **claim 16** for the reasons above and additionally Fukushima et al. teach a control unit controlling the voltage supplying unit so that no voltage is supplied to the charging unit and the charge eliminating unit when movement of the conveyance unit is stopped (Fukushima et al. – Detailed Description, Column 8, Line 65 - Column 9, Line 3 and Figure 6B, Reference #100, shown below).

FIG. 6B



f. As related to dependent **claim 18**, the combination of Maki et al. and Fukushima et al. teach the limitations of **claim 16** for the reasons above and additionally Fukushima et al. teach a control unit controlling the voltage supplying unit to vary the voltage

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supplied to the charge eliminating unit, depending on a kind of the recording sheet (Fukushima et al. – Detailed Description, Column 6, Lines 53-56 and Figure 6B, Reference #100, shown above).

g. As related to dependent **claim 19**, while Maki et al. teaches the charge eliminating unit is disposed in close proximity to the head unit (Maki et al. – Figure 18, Reference #203 & #212, shown previously), Fukushima et al. teach a position almost identical to the position detailed by the present application in the specifications and drawings, that being a position near the head unit (Fukushima et al. – Figure 3A, Reference #6, shown above).

Given the same field of endeavor, specifically an ink jet recording apparatus with a conveyance device that includes charging and discharging portions, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the image forming apparatus with the charge elimination system and the specific layout thereof as taught by Maki et al. with the specific use of a electric conduction brush to eliminate the charge on the recording medium, a controlling unit, and the specific layout thereof as taught by Fukushima et al. in an effort to provide additional means charge elimination, while producing a high quality recording and preventing defective ink discharging even though static electricity is utilized for attracting and holding the recording medium (Fukushima et al. – Summary, Column 3-4). While Fukushima et al. shows all specific examples using Direct Current (DC) further motivation to combine is easily obtained by referencing Fukushima et al. and the acknowledgment of the use of Alternating Current (AC) in lieu of DC, whereby the principles remain the same (Fukushima et al. – Detailed Description, Column 7, Lines 35-37 and Column 16, Lines 29-32).

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h. As related to independent **claim 22**, Maki et al. teach an image forming apparatus, comprising a head unit having a discharge nozzle for discharging an ink wherein the head unit discharges the ink from the discharge nozzle to print an image on a recording sheet (Maki et al. – Title; Detailed Description, Page 6, Paragraph 131; and Figure 1, Reference #1 & #3, shown previously) and a conveyance unit confronting the head unit and conveying the sheet in a movement direction to a position where the sheet confronts the head unit (Maki et al. – Abstract; Detailed Description, Page 7, Paragraph 131; and Figure 1, Reference #8 & #3, shown above). Continuing, Maki et al. teach a charging unit [i.e. belt charging unit] provided in the conveyance unit to supply an AC bias voltage to the conveyance unit (Maki et al. – Detailed Description, Page 10, Paragraph 153 and Figure 18, Reference #208, #214, #215, #216, & #219, shown previously) and a charge eliminating unit [i.e. grounding unit] eliminating charge of a printing surface of the recording sheet, the charge eliminating unit being disposed at a position on a downstream side of the charging unit in the movement direction of the conveyance unit and on an upstream side of the head unit (Maki et al. – Detailed Description, Page 10, Paragraph 153 and Figure 18, Reference #212, shown previously). Fukushima et al. continue by teaching an image forming apparatus [i.e. ink jet recording apparatus] with a head unit, charging unit, a charge eliminating unit and a conveyance unit wherein the charge eliminating unit [i.e. de-electrifying brush] is disposed on a downstream side of the charging unit in the movement direction of the conveyance unit and on an upstream side of the head unit (Fukushima et al. – Detailed Description, Column 6, Lines 50-55, Column 7 Lines 35-50; Column 11, Lines 9-15; Figures 2 & 3, Reference #A, #1, #2, #3,

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#6 & Arrows and Figure 5, Reference #16, #1, #2, #3, #4, & #5, all shown previously).

Finally, Fukushima et al. continues to teach a heating unit disposed upstream of the charge eliminating unit [i.e. a preliminary heater] (Fukushima et al. – Detailed Description, Column 18, Line 65 – Column 19, Line 7).

Given the same field of endeavor, specifically an ink jet recording apparatus with a conveyance device that includes charging and discharging portions, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the image forming apparatus with the charge elimination system as taught by Maki et al. with the further detailed charging and charge elimination means as taught by Fukushima et al. along with a means to heat the recording medium, thereby enhancing the attraction characteristics of the electrical charge, particularly the specific use of a preliminary heating unit disposed therein as taught by Fukushima et al. in an effort to provide additional means of charge elimination, while producing a high quality recording and preventing defective ink discharging even though static electricity is utilized for attracting and holding the recording medium (Fukushima et al. – Summary, Column 3-4). While Fukushima et al. shows all specific examples using Direct Current (DC) further motivation to combine is easily obtained by referencing Fukushima et al. and the acknowledgment of the use of Alternating Current (AC) in lieu of DC, whereby the principles remain the same (Fukushima et al. – Detailed Description, Column 7, Lines 35-37 and Column 16, Lines 29-32).

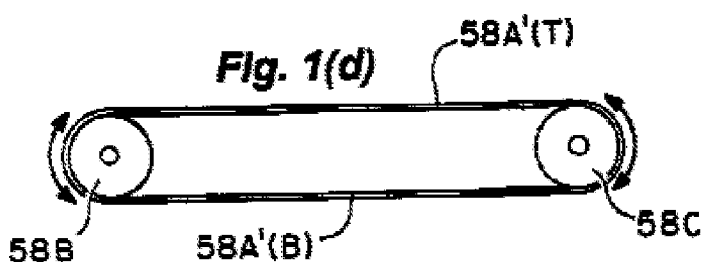
i. As related to dependent **claim 23**, the combination of Maki et al. and Fukushima et al. teaches the limitations of **claim 22** for the reasons above and additionally teaches the charging period length is less than or equal to 40mm [i.e. 4mm] (Maki et al. –

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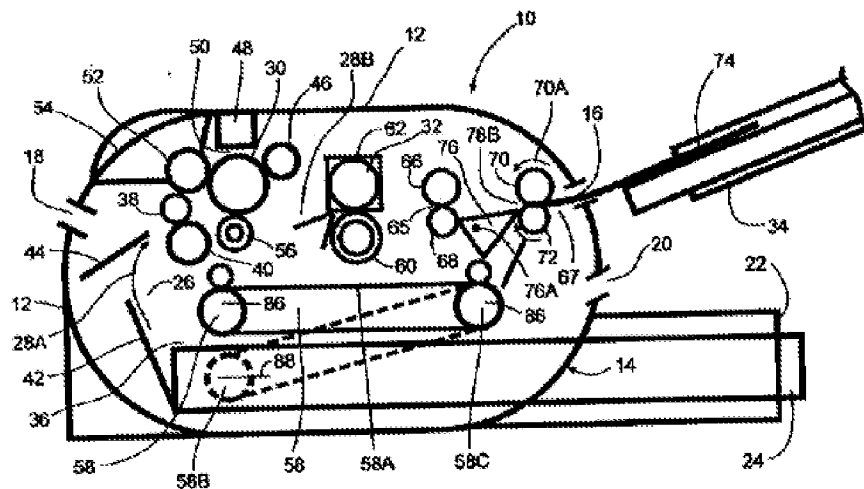
Detailed Description, Page 7, Paragraph 135; Page 9, Paragraph 146; and Page 11, Paragraph 159).

9. **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Maki et al.**, (US 2002/0126193 A1) and **Fukushima et al.**, (US 6,097,408 A) as applied to **claim 16** above, and in further view of **Eskey** (US 6,909,872 B2) and **Kashiwagi et al.** (US 2001/0028381 A1).

The previous combination of Maki et al. and Fukushima et al. remains as applied to **claim 19** above, but *does not* specifically teach a sheet reversing unit with a sheet separating unit. *However*, Eskey teaches an image forming apparatus with a sheet reversing unit reversing the recording sheet and a sheet separating unit (Eskey – Detailed Description, Column 7, Lines 1-57 and Figure 2(a), Reference #76, shown below) for use when the conveyance unit is reversely rotated to convey the recording sheet (Eskey – Figure 1(d), Reference #58A' and Arrows, shown below) after the image is printed on the printing surface of the recording sheet, to the sheet reversing unit (Eskey – Summary, Columns 1-2).



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**Fig. 2(a)**

Continuing, Kashiwagi et al. specifically teaches multiple charging and discharging sections (Kashiwagi et al. – Figure 8, Reference #3, #21, #26, & #81, shown below) and the process of separating the charge eliminating unit from the recording sheet depending on the recording stage of the apparatus (Kashiwagi et al. – Detailed Description, Page 14, Paragraphs 206-210 and Figures 16 & 17, shown below).

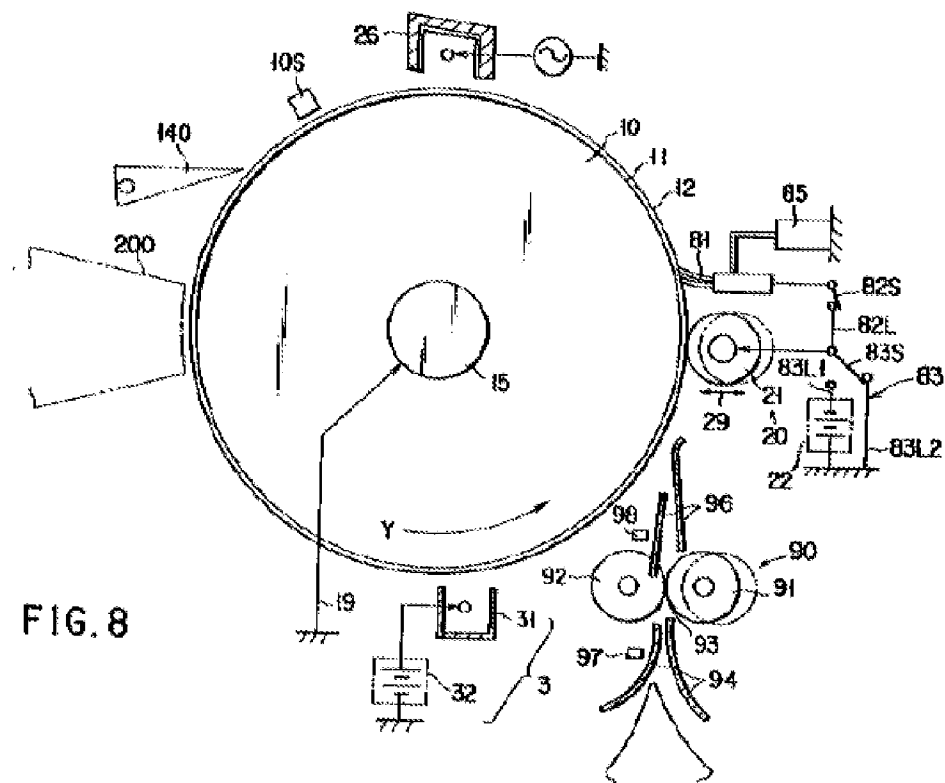


FIG. 8

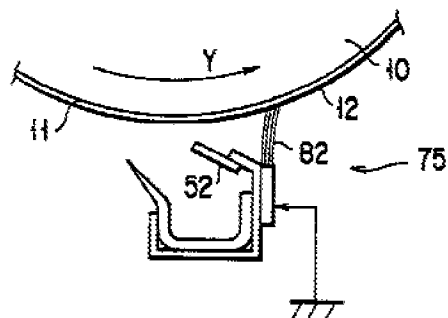


FIG. 16

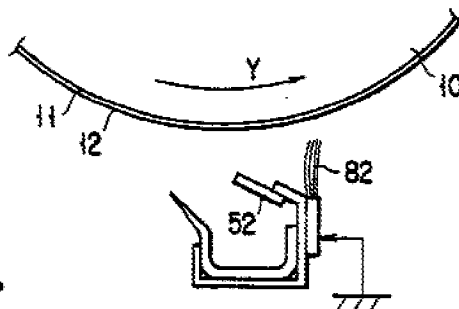


FIG. 17

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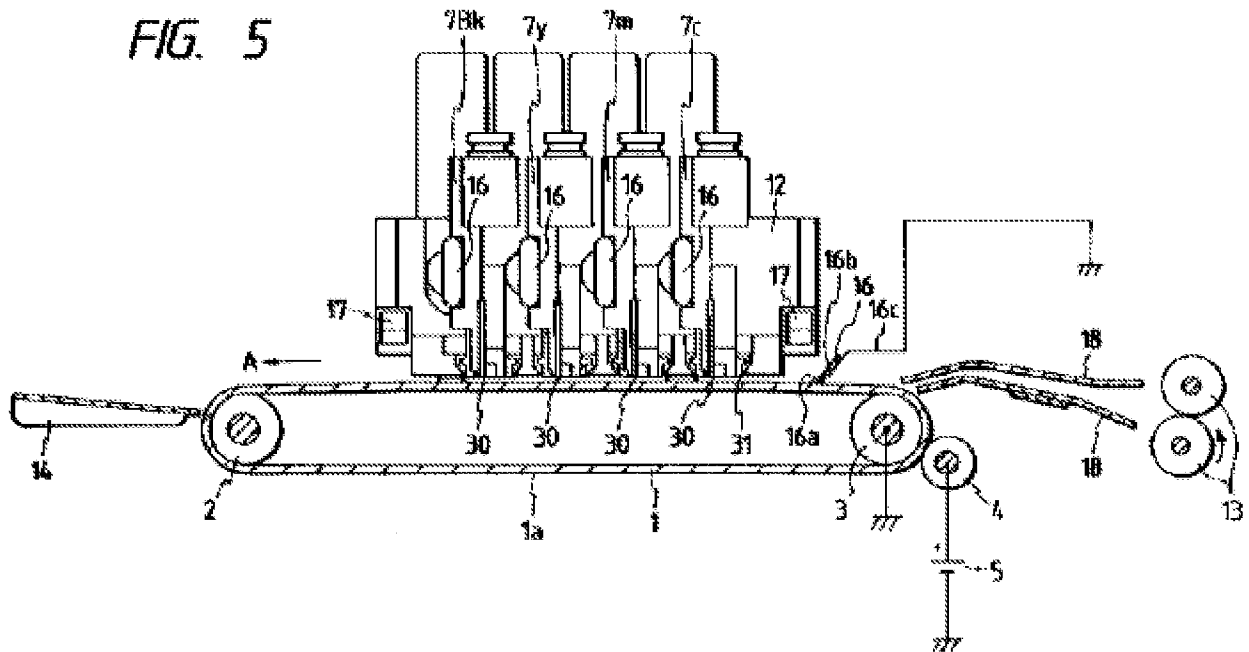
Given the same field of endeavor, specifically a ink jet recording apparatus with a conveyance system that includes various portions, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the image forming apparatus with the charge elimination system and the specific layout thereof as taught by the combination of Maki et al. and Fukushima et al. with the specific use of a sheet reversing unit with a sheet separating unit and a reversible conveyance system as taught by Eskey and the separation of the charge eliminating unit from the recording sheet depending on the recording stage of the apparatus as taught by Kashiwagi et al. in an effort to provide a multipath printing apparatus with first and second flow direction of the recording medium (Eskey – Title and Abstract) and provide optional control of the charging and elimination of the charge from the various surfaces of the conveyance means and recording medium (Kashiwagi et al. – Detailed Description, Page 14, Paragraphs 202-209) and reliably and securely hold the print medium to the conveyance means without a complicated structure (Kashiwagi et al. – Summary, Paragraph 8).

10. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Maki et al.**, (US 2002/0126193 A1) and **Fukushima et al.**, (US 6,097,408 A) as applied to **claim 16** above, and in further view of **Kashiwagi et al.** (US 2001/0028381 A1).

The previous combination of Maki et al. and Fukushima et al. remains as applied to **claim 16**, and continues to teach both the charging unit and the charge eliminating unit being connected to a voltage supply unit (Fukushima et al. – Figure 5, Reference #4, #5, #16, and GND/REF indicator, shown below), but *does not* specifically teach the voltage supplying unit supplying a bias voltage of same polarity to the charging unit and charge eliminating unit at a time, respectively. *However*, Kashiwagi et al. clearly teach the exact same voltage supplying unit used to supply a bias voltage of the same polarity to the

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charging unit [i.e. roller] and charge eliminating unit [i.e. brush] at a time, respectively (Kashiwagi et al. - Figure 8, Reference #21, #22, #81, & #82L, shown above).



Given the same field of endeavor, specifically a ink jet recording apparatus with a conveyance system that includes various portions, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the image forming apparatus with the charge elimination system and the specific layout thereof as taught by the combination of Maki et al. and Fukushima et al. with the separation of the charge eliminating unit from the recording sheet depending on the recording stage of the apparatus and use of the same voltage source for application of bias voltage to multiple charging and discharging units as taught by Kashiwagi et al. in an effort to provide optional control of the charging and elimination of the charge from the various surfaces of the conveyance means and recording medium (Kashiwagi et al. – Detailed Description, Page 14, Paragraphs 202-209) and reliably and securely hold the print medium to the conveyance means without a complicated structure (Kashiwagi et al. – Summary, Paragraph 8).

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Allowable Subject Matter

11. Amended **claim 1** is objected, but would be allowable if rewritten in correct form.

Additionally, **claims 14-15**, being dependent on independent **claim 1**, would be allowable if **claim 1** is corrected.

12. The following is a statement of reasons for the indication of allowable subject matter: As related to amended independent **claim 1**, an additional search was conducted based on the amendments to the claim and the existing prior art of record as well additional related art fails to teach or fairly suggest an image forming apparatus comprising all of the specific features and limitations as recited, in combination with and particularly including a charging unit provided in a conveyance belt wound around at least two rollers configured to receive a first AC bias voltage and apply a charge, based on the first AC bias voltage to a surface of the conveyance belt and further including a charge eliminating unit configured to receive a second AC bias voltage and additionally including an AC bias supplying unit configured to supply the first and second AC bias voltages at selected timings.

Response to Arguments

13. Applicant's arguments filed 28 August 2008 have been fully considered but they are not persuasive.

14. With respect to **claim 16** and therefore **claims 17-21** which inherently contain all of the limitations of independent **claim 16**, applicant argued that “none of the cited references discloses ... a first AC bias voltage and apply a charge based on the first AC bias voltage... receive a second AC bias voltage... an AC bias supplying unit configured to supply said first and second

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AC bias voltages at selected timings." Applicant continues to argue "the present application does not claim as its invention all modes of synchronization..." and that "Such approach is simply not obvious (indeed, the Office Action apparently expresses the Examiner's belief that one skilled in the art would have arrived at a different formulation)." In response to Applicant's argument "none of the cited references discloses ... a first AC bias voltage and apply a charge based on the first AC bias voltage... receive a second AC bias voltage... an AC bias supplying unit configured to supply said first and second AC bias voltages at selected timings," Examiner respectfully points out that Applicant **does not** claim the specified limitations, it is noted that the features upon which applicant relies [i.e., a first AC bias voltage, a second AC bias voltage and an AC bias supplying unit configured to supply the first and second AC bias voltages at selected timings] are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In response to Applicant's remaining arguments, it is respectfully pointed out that the equation used to determine the distance is such a broad limitation that it could conceivably include any possible charging period length ($X = 1$ to infinity) and therefore have an unlimited resulting value for the distance representation (Maki et al. specifically teaches a 4mm charging period length). This would not necessarily mean a different formulation, but merely a more accurate depiction of the claimed limitation. Where the limitation has no bounds, as in the above claim, the movement distance is any distance that would have been obvious to one of ordinary skill in the art at the time of the invention. Given the specific purpose of attracting and "letting go" and enabling the conveyance system to move and attract the recording medium while properly affixing said medium to its' surface before

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eliminating the charge used for attraction a specific distance related to any charging period length would have been obvious and is in fact taught by the above references.

15. Applicant's arguments, see REMARKS, Page 11-12, filed 28 August 2008, with respect to the rejection(s) of **claim 22** under 35 U.S.C. 103(a) as being unpatentable over **Maki et al.**, (US 2002/0126193 A1) and further in view of **Fukushima et al.**, (US 6,097,408 A) and **Kawada et al.**, (JP 09-254460 A). have been fully considered and are persuasive. Therefore, the original rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a further teaching in one of the previously applied references. In response to Applicant's argument "claim 22 of the present application is likewise not obvious from the cited art," Examiner respectfully points out that Applicant **does not** claim the specified limitations, it is noted that the features upon which applicant relies [i.e., a first AC bias voltage, a second AC bias voltage and an AC bias supplying unit configured to supply the first and second AC bias voltages at selected timings] are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wakahara (US 5,966,151 A) teaches an image forming apparatus with a charging unit and a charge eliminating unit with opposite polarities between the two.

17. ***Examiner's Note:*** Examiner has cited particular Figures & Reference Numbers, Columns, Paragraphs and Line Numbers in the references as applied to the claims above for the

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convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Zimmermann whose telephone number is (571)270-3049. The examiner can normally be reached on Monday - Thursday, 7:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

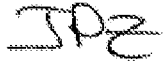
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LUU MATTHEW/
Supervisory Patent Examiner, Art Unit 2861

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A handwritten signature in black ink, consisting of the letters 'JPZ' in a stylized, cursive-like font.

JPZ